In re Patent Application of:
SMITH
Serial No. **09/441,709**
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In the Claims:

Claims 1-64 (Cancelled).

65. (Currently Amended) A method for processing a video data stream in an electronic imaging system comprising a memory, said video data stream comprising a series of pixel values corresponding to pixel sites in the electronic imaging system, the method comprising:

filtering the video data ~~steam~~ stream in real time for correcting/modifying defective pixel values, the filtering comprising

filtering pixel values not stored in the memory using a first filtering algorithm,

identifying defective pixel values,

storing locations of the defective pixel values in the memory, and

filtering the defective pixel values stored in the memory using a second filtering algorithm.

66. (Previously Presented) A method according to Claim 65, wherein the filtering comprises filtering each pixel value based on a plurality of adjacent pixel values.

67. (Previously Presented) A method according to Claim 66, wherein the filtering comprises filtering each pixel value using a current pixel value as part of a data set including the plurality of adjacent pixel values for determining whether to correct/modify the current pixel value and how to correct/modify the current pixel value.

68. (Previously Presented) A method according to Claim 65, wherein the filtering of each pixel value is based on a plurality of adjacent pixel values; the first filtering algorithm using a current pixel value as part of a data set including the plurality of adjacent pixel values.

69. (Previously Presented) A method according to Claim 68, wherein the first filtering algorithm implements the following:

sorting the current pixel value and the plurality of adjacent pixel values into a rank order based upon predetermined criteria; and

modifying the current pixel value with respect to its rank in the rank order.

70. (Previously Presented) A method according to Claim 69, wherein the current pixel value is modified if its rank is greater than a predetermined maximum rank value or less than a predetermined minimum rank value.

71. (Previously Presented) A method according to Claim 70, further comprising:

replacing the current pixel value by a pixel value having the predetermined maximum rank value if the rank of the current pixel value is greater than the predetermined maximum rank value;

replacing the current pixel value by a pixel value having the predetermined minimum rank value if the rank of the current pixel value is less than the predetermined minimum rank value; and

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leaving the current pixel value unchanged if the current pixel value has a rank less than the predetermined maximum rank value and greater than the predetermined minimum rank value.

72. (Previously Presented) A method according to Claim 71, wherein the predetermined maximum rank value is a highest ranking of the plurality of adjacent pixel values, and the predetermined minimum rank value is a lowest ranking of the plurality of adjacent pixel values.

73. (Previously Presented) A method according to Claim 65, wherein storing locations of the defective pixel values is based upon an output of the first filtering algorithm.

74. (Previously Presented) A method according to Claim 73, wherein a pixel value is determined to be defective based on a magnitude of a difference between a current pixel value and a pixel value corresponding to the output of the first filtering algorithm.

75. (Previously Presented) A method according to Claim 74, wherein location of at least one pixel value having a greatest difference in magnitude from the output of the first filtering algorithm is stored in the memory for each frame of video data.

76. (Previously Presented) A method according to Claim 65, wherein the filtering of each pixel value is based

on the plurality of adjacent pixel values; and the second
filtering algorithm excludes a current pixel value from a data
set including the plurality of adjacent pixel values.

77. (Previously Presented) A method according to
Claim 76, wherein the second filtering algorithm replaces the
current pixel value with a median value of the plurality of
adjacent pixel values.

78. (Previously Presented) A method according to
Claim 65, wherein the storing comprises storing a defect value
corresponding to a magnitude of the defect exhibited by each
defective pixel value.

79. (Previously Presented) A method according to
Claim 78, further comprising updating contents of the memory
using a predetermined memory management algorithm.

80. (Previously Presented) A method according to
Claim 79, further comprising updating the defect value of each
defective pixel value based upon an auto-regression function
applied to a current pixel value of each defective pixel
location stored in the memory, a current output from the
second filtering algorithm and a current stored defect value.

81. (Currently Amended) A method according to Claim
65, wherein the first and second filtering algorithms are
applied to the video data ~~steam~~ stream in parallel, and a
final output pixel value is selected from outputs of the first
and second filtering algorithms depending on whether a

corresponding pixel location is stored in the memory.

82. (Previously Presented) An apparatus for
processing a video data stream comprising:

an electronic imaging device;

a first filter circuit connected to said electronic
imaging device for filtering the video data stream in real
time for correcting/modifying defective pixel values, the
video data stream comprising a series of pixel values
corresponding to pixel sites in said electronic imaging
device;

a sampling circuit connected to said first filter
circuit for sampling the video data stream to obtain a data
set comprising a current pixel value and a plurality of
adjacent pixel values;

a ranking circuit connected to said sampling circuit
for sorting the plurality of adjacent pixel values into a rank
order based upon predetermined criteria;

a comparator connected to said ranking circuit for
comparing a current pixel value with the plurality of adjacent
pixel values of selected ranks, and for generating a first
filter output based upon the comparison; and

a median circuit connected to said ranking circuit
for determining a median value of the plurality of adjacent
pixel values and for generating a second filter output equal
to the median value.

83. (Previously Presented) An apparatus according to
Claim 82, further comprising a memory connected to said
comparator for storing pixel locations selected based upon the

first filter output.

84. (Previously Presented) An apparatus according to Claim 83, further comprising an output circuit connected to said median circuit, said ranking circuit and said memory for generating a final output pixel value selected from the first and second filter outputs based upon contents of said memory.